

Improving Traffic Management in North Carolina



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State of Transportation

Supply

- Interstate is built out
- TIP is slowing – can't build forever!
- Existing infrastructure is aging
- Need to manage our existing network

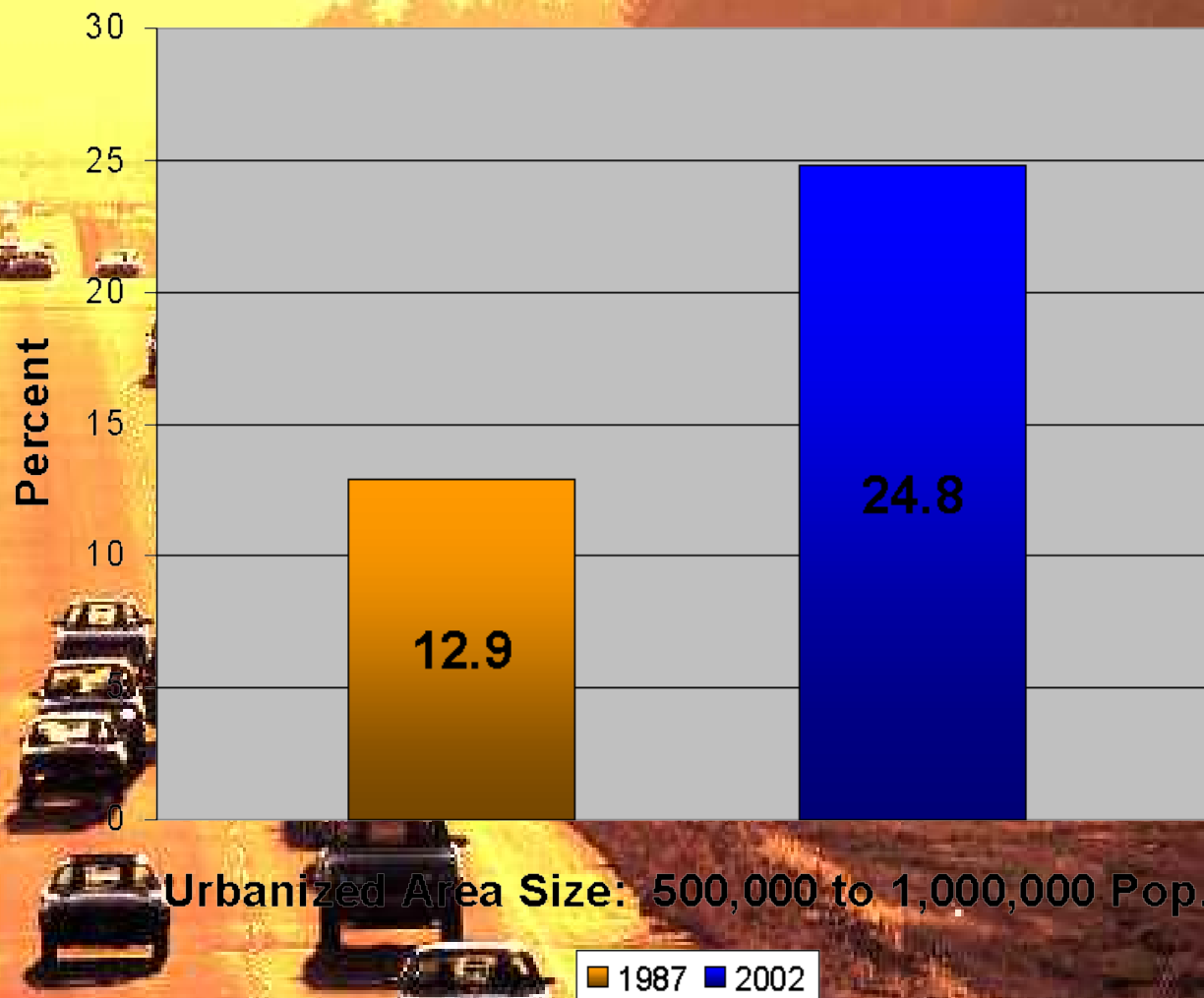
Demand

- Congestion is worsening
- Number of bottlenecks and choke-points is increasing
- Increase in lane miles <<< Increase In VMT
- Not all roads are created equal

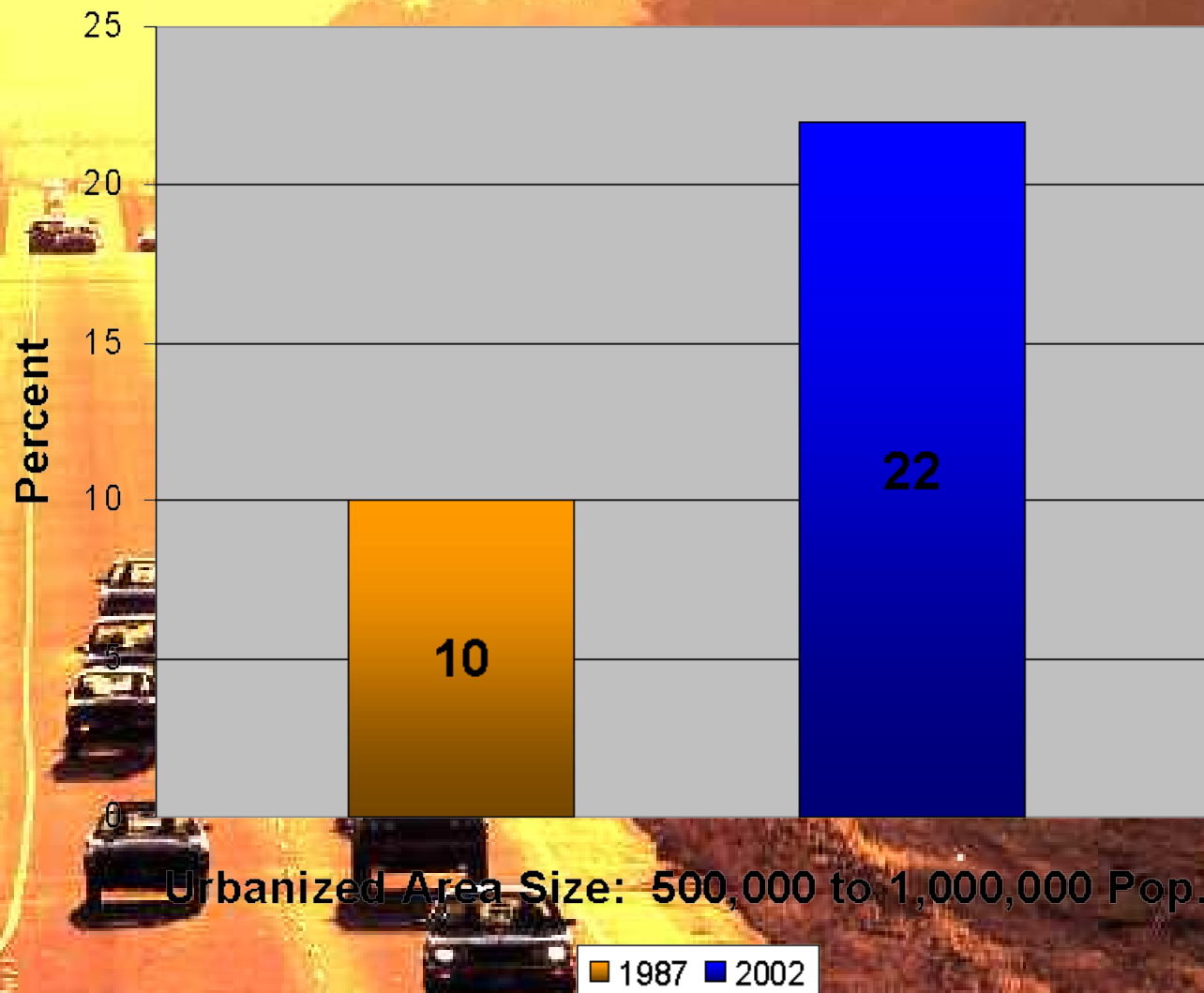
45% of Traffic on 7% of Network

“Strategic Highway Corridors”

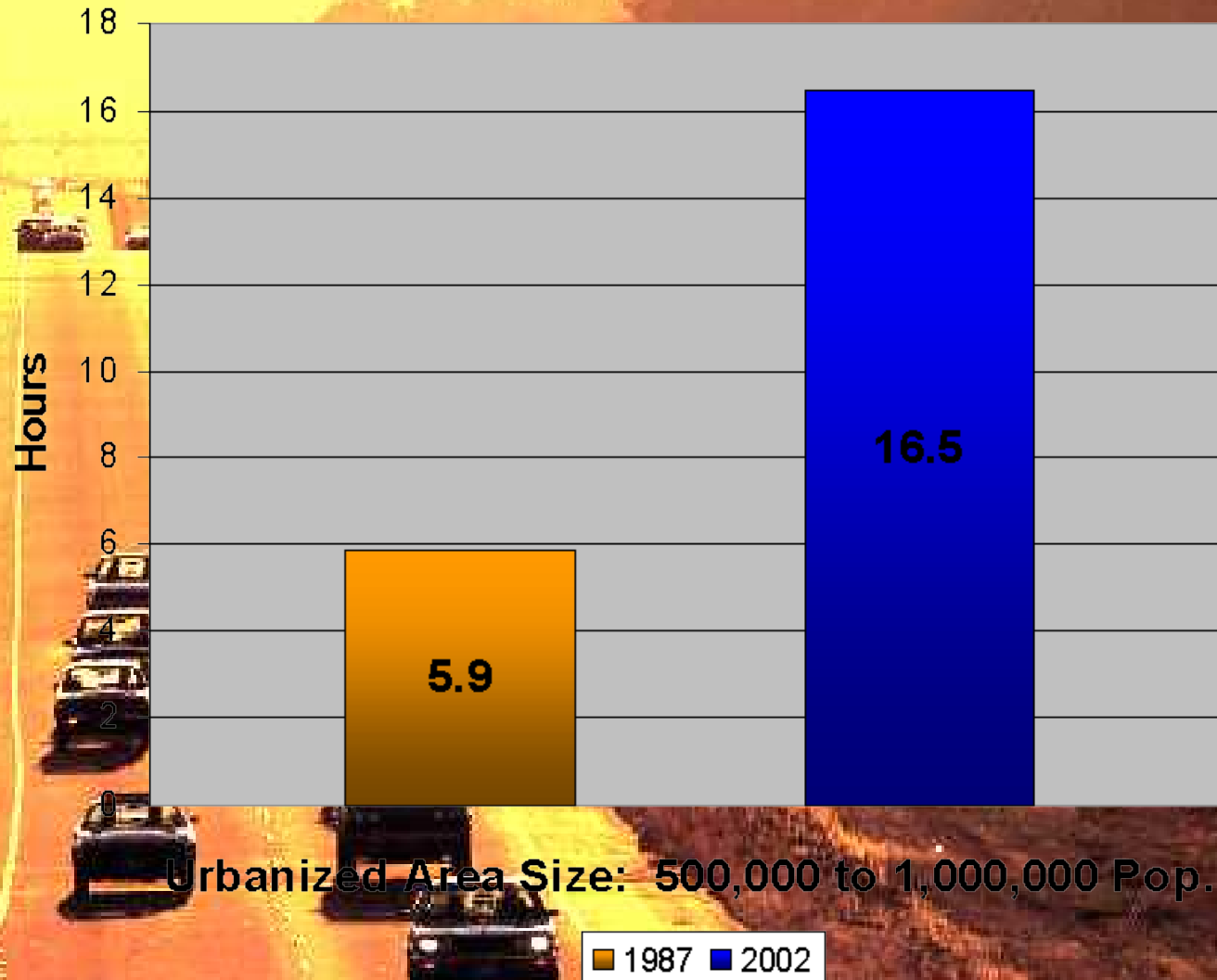
Percent of Travel in Congested Conditions in US



Percent Additional Travel Time In US



Annual Hours of Traveler Delay in US



What can be done?

- “How can we manage our existing network most effectively!?!?”
- Now is perfect opportunity to hone our skills and show the value of good Traffic Management: Incident Management + Traveler Information
- Need Team Effort between Raleigh & Divisions to make it happen



How To Do This?


- Performance Measures
 - “IM & ITS Performance Measures” - Tues (Kelly)
 - “Performance Based Management” - Wed (Steve)
- Suggestions in 3 “Focus Areas”
 - Signal Operations & Maintenance
 - Incident Management
 - Intelligent Transportation Systems

Focus Area

Signal Operations & Maintenance

Throughput of Traffic

- Signal Timing Plans
 - Retime signals for daily operations on major corridors.
 - Develop Incident Management Plans for Accidents, Evacuations (Hurricane & Nuclear Power), Planned Special Events, ...
 - Greg Fuller's staff can provide technical assistance with this. Submit needs list to Greg.
- Use Signal Maintenance Funds (R-4701) effectively
 - Prioritize work — highest and best use of limited funds
 - Focus on Preventative Maintenance
 - Respond quickly to Trouble Calls, Missing Displays, Knockdowns and Detector Failures

An aerial photograph of a multi-lane highway with several cars driving on it. The image has a warm, orange-yellow tint. Overlaid on the image is the text 'Focus Area' in blue, 'Signal Operations & Maintenance' in blue, 'Throughput of Traffic' in red, and 'Challenge' in black with a red underline. Below the underlined word 'Challenge' is a paragraph of black text.

Focus Area

Signal Operations & Maintenance

Throughput of Traffic

Challenge

Optimize signal timing on major corridors and develop Incident Management Plans for all signals on Interstate diversion routes in your Division by end of 2007

Focus Area

Incident Management

Minimize Duration and Impact of Closure

Reach Out to Local IM Stakeholders

- Need to be a visible champion
- Need to create personal relationships
- Need to be credible and dependable
- Stress
 - What's In It for Them
 - What's In It for the Traveling Public
 - What DOT Can Do to help

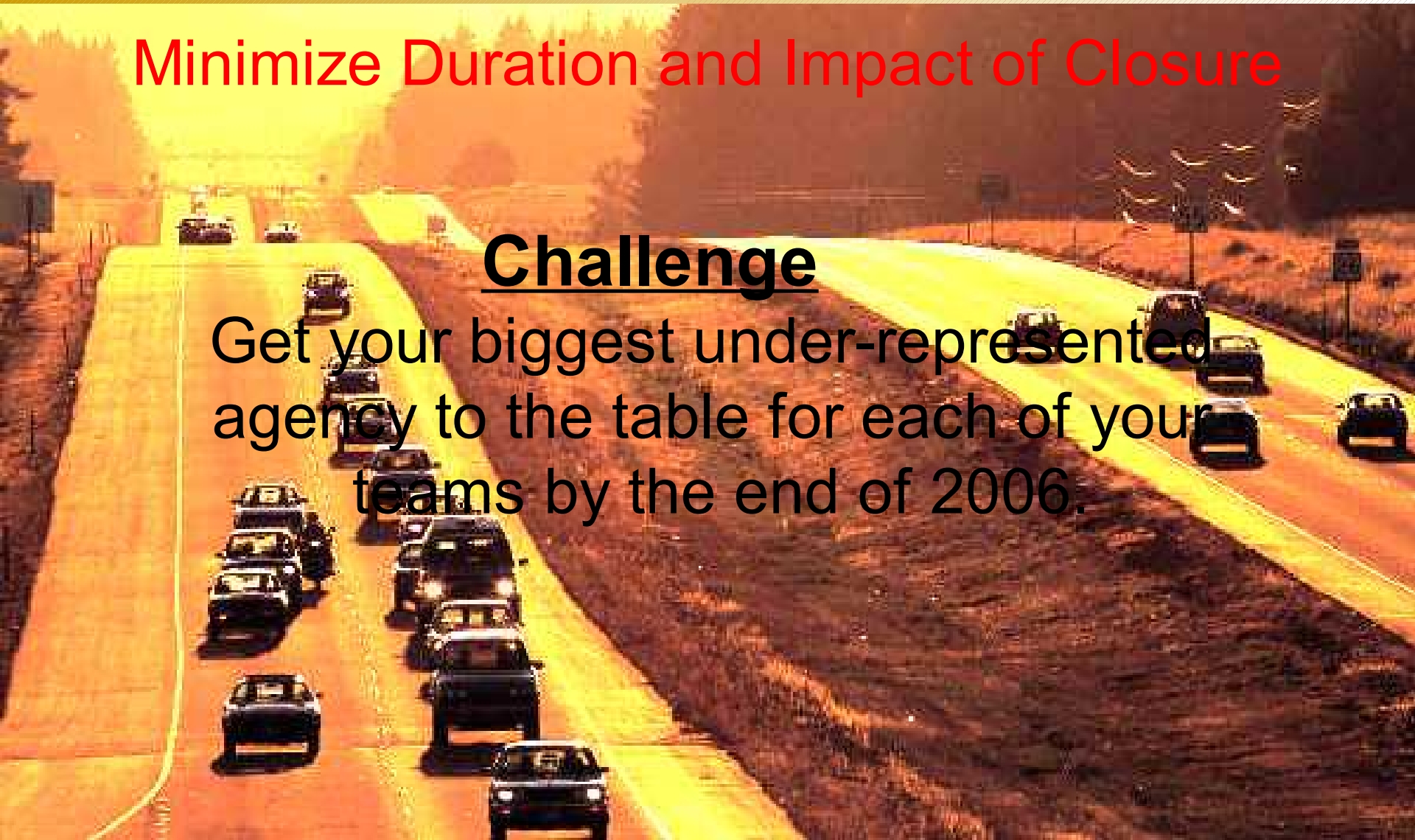
Focus Area


Incident Management

Minimize Duration and Impact of Closure

Challenge

Get your biggest under-represented agency to the table for each of your teams by the end of 2006.





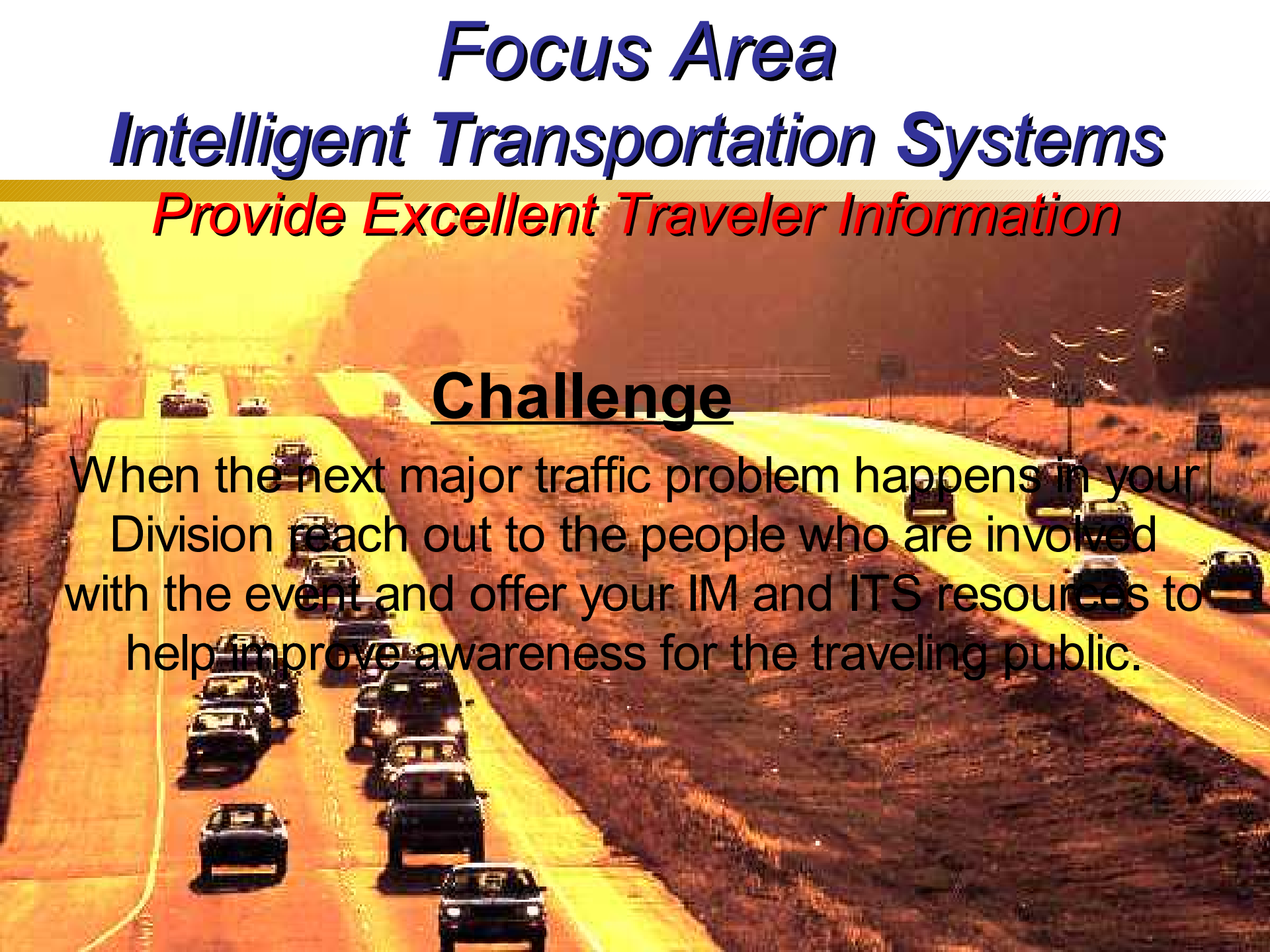
Focus Area

Intelligent Transportation Systems

Provide Excellent Traveler Information

Be “Ambassadors/Disciples for Improved Traveler Information” in your Division

- Let others worry about asphalt, bridge decks and guardrail ... you keep traffic moving safely by letting travelers know what is going on
- Be pro-active with Maintenance, Construction, Bridge Maintenance etc. to use existing ITS resources to their fullest potential
- Look for opportunities to create relationships to improve awareness of incidents on “non-covered” routes
- Think about impacts and needs across Division lines



Focus Area

Intelligent Transportation Systems

Provide Excellent Traveler Information

Challenge

When the next major traffic problem happens in your Division reach out to the people who are involved with the event and offer your IM and ITS resources to help improve awareness for the traveling public.

Good Things Are Happening!

- I-40 Closure at Old Fort
Divisions 7, 9, 10, 12 & 13
- I-40 Hurricane Ivan Rock Slide Repair
Division 13 & 14 and Tennessee DOT
- Pepsi Sail Signal Optimization in Beaufort
Division 2 & Traffic Engineering

Case Study: I-40 at Old Fort



Total Closure of I-40 Westbound at Old Fort

- TIMS entry alerted ITS Ops Unit
- Floodgate on 511, TIMS “Special Alert”
- Used DMS on I-40 WB beginning in Greensboro to alert motorists and suggest alternate route



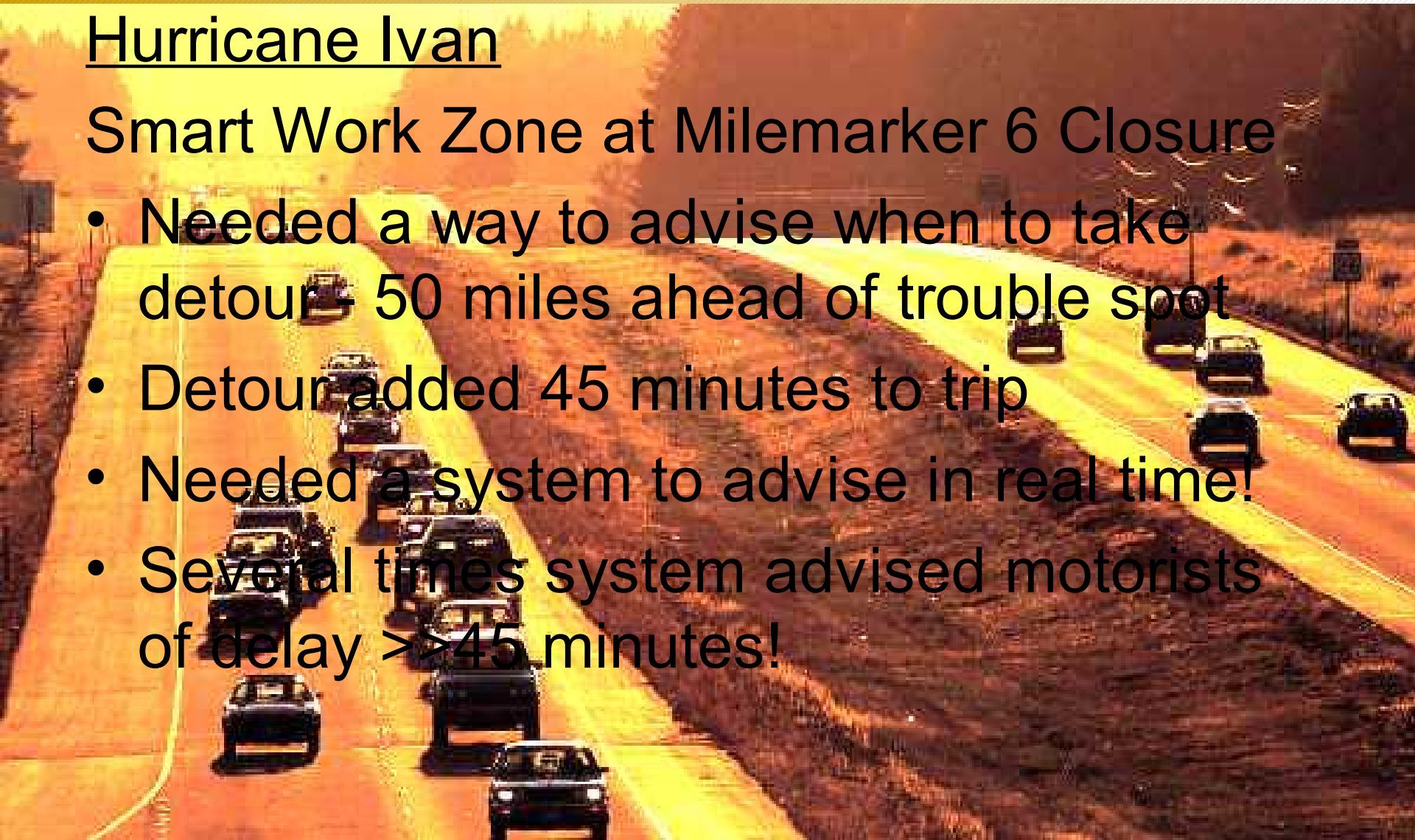
Case Study: Ivan Slide Repair



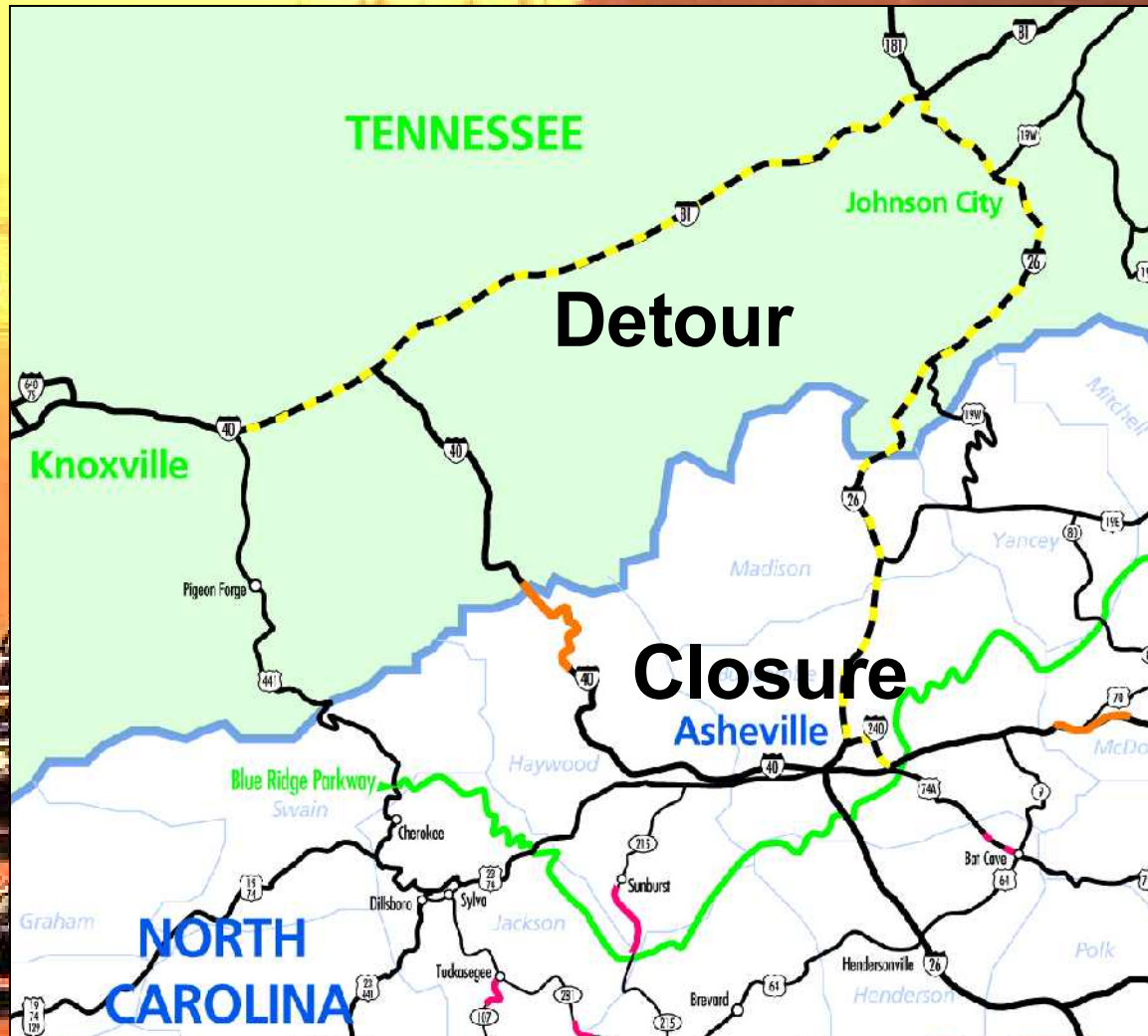
Hurricane Ivan

Smart Work Zone at Milemarker 6 Closure

- Needed a way to advise when to take detour - 50 miles ahead of trouble spot
- Detour added 45 minutes to trip
- Needed a system to advise in real time!
- Several times system advised motorists of delay >>45 minutes!



Case Study: Ivan Slide Repair



Case Study: *Pepsi Sail*



- Traffic Engineering assisted Division 2 with Signal Timing for Event Traffic in Beaufort
 - 39 Signals in 6 CLS
(Morehead City, Beaufort, Newport, and Havelock)
 - Highway Patrol stationed at signalized intersections to possibly operate signals manually
 - Officers were released from duty early due to how well the event traffic was being handled by signals
 - 150,000 visitors attended the five day event
- Also developed Hurricane Evacuation Timings

Now Is the Time for First Class IM/ITS

- Need to be
 - pro-active
 - systematic
 - all working together
- Show value of IM/ITS to
 - DOT Managers
 - Board of Transportation
 - Elected Officials
 - Stakeholders

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Return on Investment

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Feedback

What are the biggest obstacles to improving Traffic Management in North Carolina?

Please take 2 minutes to jot your ideas on RED paper in your folder.

Turn over and bundle on your table.

The Future

- Congestion continues to worsen in NC
- Travelers want no undue delay
- Must optimize performance of our road network

Great time to hone our skills and
show value of
good traffic management!



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Questions???

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